

Title (en)

PROCESS FOR PREPARING CHOLINE HYDROXIDE FROM TRIMETHYLAMINE AND ETHYLENE OXIDE

Title (de)

VERFAHREN ZUR HERSTELLUNG VON CHOLINHYDROXID AUS TRIMETHYLAMIN UND ETHYLENOXID

Title (fr)

PROCÉDÉ DE PRÉPARATION D'HYDROXYDE DE CHOLINE À PARTIR DE TRIMÉTHYLAMINE ET D'OXYDE D'ÉTHYLÈNE

Publication

**EP 2804477 A1 20141126 (EN)**

Application

**EP 13738032 A 20130117**

Priority

- US 201261588234 P 20120119
- US 201261720711 P 20121031
- US 2013021864 W 20130117

Abstract (en)

[origin: US2013190534A1] Processes for preparing N,N,N-trimethylethanolammonium hydroxide (choline hydroxide) and the choline hydroxide produced are described. These processes minimize the production of byproduct mono-ethoxylated and di-ethoxylated choline in the product choline hydroxide. The processes generally include feeding ethylene oxide, trimethylamine, and water into a first reactor to create a first reactor product under temperature controlled conditions. The product of the first reactor is fed into a second reactor to form a second reactor product under uncontrolled, adiabatic, conditions. Finally, any unreacted to trimethylamine in the second reactor product is removed to form a final product comprising choline hydroxide. Additional reactors can be used for the ethylene oxide and trimethylamine reaction.

IPC 8 full level

**A01N 33/12** (2006.01); **C07C 213/04** (2006.01); **C07C 215/40** (2006.01); **C07C 217/08** (2006.01)

CPC (source: BR CN EP IL KR RU US)

**A01N 33/12** (2013.01 - IL RU); **B01J 19/00** (2013.01 - IL RU); **C07C 213/04** (2013.01 - BR CN EP IL KR US); **C07C 215/10** (2013.01 - KR); **C07C 227/02** (2013.01 - IL RU); **Y02P 20/582** (2015.11 - EP)

C-Set (source: CN EP US)

1. **C07C 213/04** + **C07C 217/08**
2. **C07C 213/04** + **C07C 215/40**

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**US 2013190534 A1 20130725**; **US 9353045 B2 20160531**; AR 089756 A1 20140917; AU 2013209783 A1 20140724; AU 2013209783 B2 20161117; AU 2017200997 A1 20170309; BR 112014017781 A2 20170620; BR 112014017781 A8 20170711; BR 112014017781 B1 20191203; CA 2863057 A1 20130725; CA 2863057 C 20200331; CN 104039143 A 20140910; CN 104039143 B 20170704; CN 106928072 A 20170707; CO 7010820 A2 20140731; DK 2804477 T3 20181001; EP 2804477 A1 20141126; EP 2804477 A4 20150923; EP 2804477 B1 20180627; IL 233601 A0 20140831; IL 233601 B 20200831; IN 5702DEN2014 A 20150410; JP 2015504090 A 20150205; JP 6109853 B2 20170405; KR 102091495 B1 20200320; KR 20140114867 A 20140929; KR 20200032242 A 20200325; MX 2014008732 A 20150204; MX 357544 B 20180713; NZ 627045 A 20150626; PL 2804477 T3 20181231; RU 2014133861 A 20160320; RU 2641815 C2 20180122; WO 2013109705 A1 20130725

DOCDB simple family (application)

**US 201313743616 A 20130117**; AR P130100159 A 20130118; AU 2013209783 A 20130117; AU 2017200997 A 20170214; BR 112014017781 A 20130117; CA 2863057 A 20130117; CN 201380005335 A 20130117; CN 201710165300 A 20130117; CO 14152594 A 20140715; DK 13738032 T 20130117; EP 13738032 A 20130117; IL 23360114 A 20140710; IN 5702DEN2014 A 20140709; JP 2014553399 A 20130117; KR 20147022230 A 20130117; KR 20207007450 A 20130117; MX 2014008732 A 20130117; NZ 62704513 A 20130117; PL 13738032 T 20130117; RU 2014133861 A 20130117; US 2013021864 W 20130117